

Remarks

Applicants gratefully acknowledge the withdrawal of finality of this application based on a telephone conversation with Examiner Jude Jean Gilles on June 6, 2006. During that telephone conference, applicants respectfully submitted that independent claim 1 had not been substantively amended (only a typographical error was corrected), and therefore, the claim amendments did not necessitate the new grounds of rejection. Examiner Gilles agreed and indicated that the finality would be removed. Thus, applicants are responding herein to the non-final Office Action, dated April 7, 2006.

Entry of the amendments, reconsideration of the application, as amended, and allowance of all pending claims are respectfully requested. Claims 1-10 remain pending.

The above amendments to the specification are to correct typographical errors and to remove extraneous wording. Additionally, the claim amendments are provided in a bonafide attempt to further prosecution of this application and not in acquiescence to the rejection. With the above claim amendments, applicants are clarifying the language of the claims and further clarifying their instance identifier. Support for these amendments may be found throughout the application (e.g., paragraph 23, paragraph 24, etc.). Thus, no new matter is added.

In the Office Action, dated April 7, 2006, claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vaman et al. (U.S. Patent No. 6,011,780) in view of Moy (U.S. Patent No. 6,031,817). Applicants respectfully, but most strenuously, traverse this rejection for the reasons herein.

Applicants' invention is directed, in one aspect, to providing reliable communications in a system of directly connected data processing nodes. When a node or communications failure is detected by, for instance, a heartbeat detection mechanism, each node of the system associates a unique instance identifier with the detected failure. Notification of this failure is sent to the other nodes which have existing communications with the failed node. At the nodes which are notified, pending communications with the failed node are terminated based on the current instance identifier and a new instance identifier is used for further communication. When the failed node comes back online, communications are renewed with

a new instance identifier providing an indication of the last valid packet transmission that occurred. Packets with incorrect (or old) instance identifiers are discarded by the receiver, which helps solve the classic trickle traffic problem.

In one particular example, applicants claim a method of providing reliable communication in a system of directly connected data processing nodes (e.g., independent claim 1). The method includes, for instance, detecting a failure of a node or a failure of connectivity to the node (failed node) using a heartbeat signal provided over a separate path to indicate to one or more other nodes in said system the failure; establishing, at one of said one or more other nodes, an instance identifier associated with said failure, said instance identifier indicating that communications of the failed node are to be discarded; sending notification of said failure, including said instance identifier, to said one or more other nodes having existing communications with said failed node; and terminating, at said one or more notified nodes, pending communications that involve said failed node, said termination being carried out in response to said notification. Thus, in this aspect of applicants' claimed invention, a failure associated with a node is detected using a heartbeat signal provided over a separate path. An instance identifier associated with the failure is established at one of the other nodes. The instance identifier indicates that communications of the failed node are to be discarded. Notification of the failure, including the instance identifier, is sent to the other nodes having existing communications with the failed node, and pending communications at the one or more notified nodes that involve the failed node are terminated. Applicants respectfully submit that one or more of these claimed features are not taught or suggested by Vaman or Moy, either alone or in combination.

For example, applicants respectfully submit that each of the references, and therefore, the combination of the references, fails to describe, teach or suggest an instance identifier, as claimed by applicants. Applicants' instance identifier, as claimed, indicates that communications of the failed node (i.e., the failed node or node with failed connectivity) are to be discarded. This is not described, taught or suggested in Vaman or Moy. It is explicitly stated in the Office Action that Vaman does not teach or suggest the details of an instance identifier. Therefore, Moy is relied upon. However, applicants respectfully submit that Moy does not overcome the deficiencies of Vaman.

While Moy describes an instance value, the instance value of Moy is very different from the instance identifier claimed by applicants. Again, as claimed, in one example, applicants' instance identifier indicates that communications of the failed node are to be discarded. In contrast, in Moy, the instance value is used to determine whether virtual circuits are to be re-established (col. 5, lines 38-49). In particular, in Moy, an instance value is incremented when a link has malfunctioned and been restored, and is used to determine whether the virtual circuits associated with the link are to be re-established. This is very different from applicants' claimed invention in which the identifier indicates whether communications are to be discarded. Since the instance value in Moy does not indicate that communications are to be discarded, but instead, specifies whether virtual circuits are to be re-established, applicants respectfully submit that Moy does not teach or suggest this aspect of applicants' claimed invention.

Therefore, since both Vaman and Moy fail to teach or suggest an instance identifier, as claimed by applicants, applicants respectfully submit that the combination of Vaman and Moy also fails to teach or suggest this aspect of applicants' claimed invention. For at least this reason, applicants respectfully submit that their invention is patentable over the combination of Vaman and Moy.

Moreover, applicants respectfully submit that the combination of Vaman and Moy fails to describe, teach or suggest applicants' claimed element of "terminating, at said one or more notified nodes, pending communications that involve said failed node, said termination being carried out in response to said notification." Again, it is explicitly admitted in the Office Action that Vaman is silent as to this claimed element, and therefore, Moy is relied upon. However, applicants respectfully submit that Moy does not overcome the deficiency of Vaman.

Applicants respectfully submit that there is no description, teaching or suggestion in Moy of terminating, at the one or more notified nodes, pending communications that involve the failed node, the termination being carried out in response to notification, as claimed by applicants. In the Moy reference, there is no discussion of terminating communications. Instead, the focus is on re-routing or re-establishing virtual circuits to continue communications. In Moy, it is recognized that virtual circuits are dropped when there is a

link failure, and therefore, a mechanism is provided to re-establish those virtual circuits. There is no discussion in Moy of terminating communications, as claimed by applicants. In particular, there is no description, teaching or suggestion in Moy of terminating, at the notified nodes, pending communications that involve the failed node, in which that termination is carried out in response to the notification. Moy makes no mention of nodes being notified of a failure, and in response thereto, terminating communications. There is no discussion of terminating communications in Moy. In Moy, virtual circuits are dropped, but this is not performed by nodes, in response to those nodes receiving notification of node failure. Again, there is no discussion in Moy of terminating communications, or of terminating communications, by notified nodes, in response to being notified of a failure. Since both Vaman and Moy fail to describe, teach or suggest this aspect of applicants' claimed invention, applicants respectfully submit that their invention is patentable over the combination of Vaman and Moy.

Further, applicants respectfully submit that a *prima facie* case of obviousness has not been provided in the Office Action, since it is not stated in the Office Action where Moy teaches applicants' claimed terminating element, which is admittedly missing from the Vaman reference.

For all of the above reasons, applicants respectfully request an indication of allowability for claims 1-10.

Should the Examiner wish to discuss this case with applicants' attorney, please contact applicants' attorney at the below listed number.

Respectfully submitted,

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Dated: August 7, 2006.
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